2439

Technical Specification - General and Process

Complete Equipment List

Chief Engineer (in

VATECH WABAG

S.No	Description	UOM	Working	Standby	Total Installed	Min. Uninstalled shelf spares	Min. Total No. of Units (Installed + Uninstalled)	Service	Capacity	Type
TSPS										
1	TSPS Coarse Screens	Nos	2	1	3	0	3	Intermittent	0.990 m^3/s	Climber type bar screen with mechanical cleaning
2	Screenings Conveyor	Nos	1	0	1	0	1	Intermittent	-	Endless Belt Type
3	Screenings Container	Nos	1	2	3	0	3	Intermittent	2 m^3	Wheeled FRP container
4	TSPS Pumps	Nos	4	2	6	0	6	Continuous	1,781 m^3/h	Submersible non-clog solids handling wet pit
5	Motorised Monorail Hoist	Nos	1	0	1	0	1	Intermittent	5 MT SWL	Motorised Monorail Hoist
6	Dewatering Pumps	Nos	1	1	2	0	2	Intermittent	25 m^3/h	Submersible type
7	Exhaust Fans	Nos	10	0	10	0	10	Intermittent	5000 m^3/h	Propeller Exhaust Fan
Preliminary Treatment Section										
1	Medium Screens	Nos	4	1	5	0	5	Intermittent	0.495 m^3/s	6mm Bar screen with mechanical cleaning
2	Medium Screens (manual)	Nos	1	0	1	0	1	Intermittent	1.979 m^3/s	6mm Bar or Drum screen with manual cleaning
3	Screenings Conveyor	Nos	1	0	1	0	1	Intermittent	-	Endless Belt Type

Chief Engineer (K)
BWSSB

4	Screenings Container	Nos	1	2	3	0	3	Intermittent	2 m^3	Wheeled FRP container
5	Grit Mechanism	Nos	4	0	4	0	4	Continuous	0.495 m^3/sec, 6.37 m sq X 1 SWD	Center Column Supported with Central drive
6	Grit Washers and Classifiers	Nos	4	0	4	0	4	Continuous	0.495 m^3/sec, 5.2 m X 0.4 m X 0.8 SWD	Integral inclined trough with chain- and flight rake.Screw classifiers not allowed.
7	Grit Container	Nos	4	2	6	0	6	Intermittent	2 m^3	Wheeled FRP container
8	Organic Return Pumps	Nos	4	0	4	0	4	Continuous	As per requirement	Vertical Propeller pump
Primary Treatment Section										
9	Primary Clarifier Mechanism	Nos	4	0	4	0	4	Continuous	28.7 m Dia x 3.6 m SWD + 0.5 m FB	Center column supported with center drive. Peripheral drive or bridge supported not allowed.
10	Primary Sludge Pumps	Nos	4	4	8	0	8	Continuous	16.9 m^3/h	Solids Handling Centrifugal
11	Monorail, Chainpulley block with Travelling Trolley	Nos	1	0	1	0	1	Intermittent	1 MT SWL	Monorail, Chainpulley block with Travelling Trolley
12	Exhaust Fans- Primary sludge Pumping Station	Nos	6	0	6	0	6	Continuous	2000 m^3/h	Propeller Exhaust Fan
13	Primary Scum Pumps	Nos	1	1	2	0	2	Continuous	35.625 m^3/h	Submersible Chopper with recirculation valve

Chief Engineer (K)
BWS

Secondary Treatment Section										
14	Anaerobic Mixers	Nos	8	0	8	2	10	Continuous	734 m^3/h	Submersible
15	Anoxic Mixers	Nos	12	0	12	3	15	Continuous	1,563 m^3/h	Submersible
16	Process Air Blowers	Nos	5	3	8	0	8	Continuous	13987 m^3/h	Singlestage centrifugal with dualpoint (inlet guide vanes and outlet valve) control
17	Process Air Diffusers	Nos	NA	NA	NA	NA	5% of installed	NA	NA	Fine bubble membrane, tubular or disc, retrievable
18	EOT Crane (Process Air Blower Building)	Nos	1	0	1	0	1	Intermittent	5 MT SWL	Fully EOT (LT,CT,Lift)
19	Exhaust Fans (Process Air Blower Building)	Nos	10	0	10	0	10	Continuous	7200 m3/h	Propeller Exhaust Fan
20	Mixed Liqour Recycle Pumps	Nos	4	4	8	0	8	Continuous	3,750 m^3/hr	Submersible - Tube installed
21	Motorised Monorail Hoist	Nos	1	0	1	0	1	Intermittent	3 MT SWL	Motorised Monorail Hoist - Semi (only lift & traversing)
22	Alum Dosing Pumps	Nos	2	1	3	0	3	Intermittent	500 LPH	Hydraulic double diaphragm
23	Alum Dosing Tanks	Nos	2	0	2	0	2	Intermittent	10.2 m^3	GRP or HDPE
24	Alum Solution Tank Mixers	Nos	2	0	2	0	2	Intermittent	10.2 m^3	Turbine
25	Alum Dispersion Rapid Mixer	Nos	1	0	1	0	1	Intermittent	1 m^3/hr	In-channel submersible vacuum induction
26	Monorail, Chain pulley block with Travelling Trolley (Chemical Building)	Nos	1	0	1	0	1	Intermittent	1 MT SWL	Monorail, Chain pulley block with Travelling Trolley

Chief Engi
RWSS

VATECH W

2442

27	Exhaust Fans (Chemical Building)	Nos	6	0	6	0	6	Continuous	1100 m^3/h	Propeller Exhaust Fan
28	Secondary Clarifier Mechanism	Nos	4	0	4	0	4	Continuous	38.71 m Dia X 4.0 m SWD, 0.5 m FB	Circular, center column supported with center drive, and center or peripheral feed. Peripheral drive or bridge supported not allowed.
29	Return Activated Sludge (RAS) Pumps	Nos	8	4	12	0	12	Continuous	469 m^3/hr	Non-clog centrifugal solids handling dry pit
30	Motorised Monorail Hoist (RAS Pump Station)	Nos	1	0	1	0	1	Intermittent	2 MT SWL	Motorised Monorail Hoist
31	Exhaust Fans (RAS Pump Station)	Nos	8	0	8	0	8	Continuous	5000 m^3/h	Propeller Exhaust Fan
32	Secondary Scum Pumps	Nos	1	1	2	0	2	Intermittent	35.63 m^3/h	Submersible chopper with recirculation valve
Disinfection Section										
33	Chlorine Ton Cylinders	Nos	2	6	8	0	8	Intermittent	900 kg	Steel (SA516 Gr 60)
34	Chlorine Cylinder Load Cell	Nos	1	0	1	0	1	NA	NA	Electronic type
35	Chlorinators	Nos	1	1	2	0	2	Continuous	35.63 kg/h	Vaccum type-Gas Feed
36	Chlorine Ejector	Nos	1	1	2	0	2	Continuous	855 kg/d	Inline vacuum induction
37	Caustic Storage Tank	Nos	1	0	1	0	1	Intermittent	NA	GRP Tank
38	Emergency Chlorine Scrubber Package	Nos	1	0	1	0	1	Intermittent	NA	Caustic wet chemical scrubber - Automatic

Chief Engineer (K)
BWSSB

39	Motorised Monorail Hoist (Chlorine Building)	Nos	1	0	1	0	1	Intermittent	3 MT SWL	Motorised Monorail hoist
40	Exhaust Fans (Chlorine Building)	Nos	12	0	12	0	12	Continuous	1000 m^3/h	Propeller Exhaust Fan
Sludge & Gas Handling Section										
41	Gravity Sludge Thickener Mechanism	Nos	2	0	2	0	2	Continuous	23.2 m Dia X 4.5 m SWD + 0.5 m FB	Circular, center column supported with central drive
42	Thickened Sludge Pumps	Nos	2	1	3	0	3	Continuous	31.0 m^3/h	Progressing Cavity
43	Monorail, Chain pulley block with Travelling Trolley (Thickened Sludge Pump Station)	Nos	1	0	1	0	1	Intermittent	1 MT SWL	Monorail, Chainpulley block with Travelling Trolley
44	Exhaust Fans (Thickened Sludge Pump Station)	Nos	4	0	4	0	4	Continuous	1800 m3/h	Propeller Exhaust Fan
45	Digester Gas Mixing Blowers	Nos	2	1	3	0	3	Continuous	2264 m^3/h	Rotary lobe PD with VFD
46	Digester Gas Mixing Injection System	Nos	2	0	2	0	2	Continuous	2264 m^3/h	Gas injector with draft tube
47	Digester Mixing pump	Nos	2	2	4	0	4	Continuous	1257 m^3/h	Non-clog centrifugal solids handling dry pit, screw impeller
48	Bio gas Scrubbing System	Nos	1	1	2	0	2	Continuous	625 m^3/h	Two-stage caustic scrubber with mist and flame traps
49	Safety Devices- Flame arresters, Pressure relief valves, Duplex Filters, Moisture Traps, Flame Trap assembly etc.	Nos	1	0	1	0	1	NA	625 m^3/h	-

Chief Engineer (K)
BWSSB

50	Hot Water Boilers	Nos	1	1	2	0	2	Continuous	825850 kcal/h	Flue-fire-tube vacuum hot water boiler
52	Biogas blowers (Boilers)	Nos	1	1	2	0	2	Continuous	625 m3/h	Rotary Lobe PD
53	Heavy Oil Storage Tank	Nos	1	0	1	0	1	Intermittent	11,488 L	Above ground steel oil tank
54	Water Softening system for Boilers	Nos	1	0	1	0	1	Continuous	35 m^3/h	-
55	Digester Heat Exchangers	Nos	4	0	4	0	4	Continuous	784531 kcal/h	Tube in tube
56	Digester Sludge Circulation Pumps	Nos	4	2	6	0	6	Continuous	40 m^3/h	Progressing cavity
57	Exhaust Fans (Digester Building)	Nos	12	0	12	0	12	Continuous	3000 m^3/h	Propeller Exhaust Fan
58	Digester Hot Water Circulation pumps	Nos	2	1	3	0	3	Continuous	39 m^3/h	Horizontal Centrifugal
59	Exhaust Fans (Boiler building)	Nos	12	0	12	0	12	Continuous	1600 m3/h	Propeller Exhaust Fan
60	Sludge/Biogas Storage Tank Diffusers	Nos	NA	NA	NA	0	NA	NA	As per requirement	Coarse bubble : SS316
61	Sludge/Biogas Storage Tank Floating Gasholder Cover	Nos	2	0	2	0	2	Continuous	Dia 17.4 m , Height: 8 m	Bell type
62	Biogas Flare	Nos	1	0	1	0	1	Intermittent	1,240 m^3/h	Burner with Flare, Stack, Pilot burner, Ignition system complete
63	Biogas blowers (Biogas Flare)	Nos	1	1	2	0	2	Intermittent	1,240 m^3/h	Rotary Lobe PD

Chief Engineer (K)
BWSSB

64	Centrifuge Feed (Dewatering Influent, DWI) Pumps	Nos	2	1	3	0	3	Intermittent	28 m^3/h	Progressing Cavity with VFD
65	Monorail, Chain pulley block with Travelling Trolley (Centrifuge feed Pump Station)	Nos	1	0	1	0	1	Intermittent	1 MT SWL	Monorail, Chainpulley block with Travelling Trolley
66	Exhaust Fans (Centrifuge feed Pump Station)	Nos	4	0	4	0	4	Continuous	1800 m3/ h	Propeller Exhaust Fan
67	Dewatering Centrifuges	Nos	2	1	3	0	3	Intermittent	28 m^3/hr	Solid Bowl
68	Dry Polymer Storage Bins	Nos	1	0	1	0	1	Intermittent	4,290 kg	Covered bin
69	Dry Polymer Feeder	Nos	1	0	1	0	1	Continuous	3.8 kg/min	Gravimetric or volumetric "atomizing" educator
70	Polymer Batch Tanks	Nos	2	1	3	0	3	Intermittent	45 m^3	GRP
71	Polymer Batch Tank Mixers	Nos	2	1	3	0	3	Intermittent	45 m^3	Turbine
72	Polymer Metering Pumps	Nos	2	1	3	0	3	Intermittent	3500 LPH	Hydraulic double diaphragm
73	Dewatered Sludge Conveyors	Nos	1	0	1	0	1	Intermittent	NA	Endless Belt Type
74	Dewatered Sludge Hoppers	Nos	1	0	1	0	1	Intermittent	10.00 m^3	Cut Gate
75	Dewatered Sludge Containers	Nos	1	1	2	0	2	Intermittent	10.00 m^3	GRP

Chief Engineer (K)
BWSSB

76	Motorised Monorail Hoist (Centrifuge building)	Nos	1	0	1	0	1	Intermittent	5 MT SWL	Motorised Monorail Hoist
77	Exhaust Fans (Centrifuge building)	Nos	8	0	8	0	8	Continuous	5000 m3/h	Propeller Exhaust Fan
Auxiliary Units										
78	Plant Drain Pumps	Nos	2	1	3	0	3	Intermittent	188 m^3/h	Submersible
79	Bore Well Pumps	Nos	1	1	2	0	2	Intermittent	20 m^3/h	Submersible
80	Plant Water Pumps	Nos	2	1	3	0	3	Intermittent	188 m^3/h	Submersible
81	Pumps for service, Dewatering and Sump	Nos	2	1	3	0	3	Intermittent	As per requirement	NA
82	Automated Flow Weighted Composite Samplers	Nos	3	0	3	1	4	Intermittent	As per requirement	NA
83	Laboratory (equipment & exhaust fans)	Nos	1	0	1	0	1	Intermittent	As per Tender requirement	NA
84	Air conditioner	Nos	2	0	2	0	2	Intermittent	1.5 Ton	Split AC (SCADA Room and Conference room)
85	Chain Pulley Block- for scum pits, plant drain and plant water sump	Nos	4	0	4	0	4	Intermittent	1.0 Ton	Monorail, Chain pulley block
86	Jib Cranes for Primary, Secondary Clarifier and thickener	Nos	10	0	0	10	10	Intermittent	0.5 Ton	--

Chief Engineer (K)
BWSSB

VA TECH WABAG